

## **IN THE CLAIMS**

**Claims 1-13, 41-50, 82-92, 98-101, 103, and 106-116** are pending.

**Claims 14-40, 51-81, 93-97, 102, 104, and 105** have been canceled without prejudice to or disclaimer of the subject matter recited therein.

**Claims 1, 41-50, 82-84, 86, 88, 90-91, and 98** are previously presented.

**Claims 85, 87, 89 and 92** are currently amended.

**Claims 106-116** are new.

1.     **(Previously Presented)** An architecture comprising:  
  
a table appearance manager to manage how a table appears in a document; and  
  
a spreadsheet functionality manager to manage spreadsheet functions for the table,  
  
wherein the table appearance manager and the spreadsheet functionality manager are architecturally separate system managers of the architecture.
  
2.     **(Original)** The architecture of claim 1, wherein the document is a markup document.
  
3.     **(Original)** The architecture of claim 1, wherein the table appearance manager provides a formula edit box to permit the user to enter a formula into a cell of the table.

4.     **(Original)** The architecture of claim 1, wherein the table appearance manager comprises:

a table component to support editing functionality of the table; and  
a spreadsheet component to receive data and formulas input into the table.

5.     **(Original)** The architecture of claim 1, wherein the spreadsheet functionality manager comprises:

a cell table to maintain data values and formulas used in the table; and  
a format table to maintain formatting information used in the table.

6.     **(Original)** The architecture of claim 1, wherein the spreadsheet functionality manager comprises:

a cell table to maintain data values and formulas used in the table; and  
a recalculation engine to recalculate the formulas following a change to a data value or formula in the cell table.

7.     **(Original)** The architecture of claim 1, wherein the spreadsheet functionality manager comprises:

a cell table to maintain data values and formulas used in the table;  
a delay parser to parse input for the cell table as needed; and  
a recalculation engine to recalculate the formulas following a change to a data value or formula in the cell table.

8.     **(Original)** The architecture of claim 1, wherein multiple tables appear in one or more documents, and the spreadsheet functionality manager is configured to maintain data and formulas for the multiple tables.

9.     **(Original)** The architecture of claim 1, wherein multiple tables appear in one or more documents, and the spreadsheet functionality manager is configured to track references made from one table to another table.

10.    **(Original)** The architecture of claim 1, wherein multiple tables appear in one or more documents, and the spreadsheet functionality manager is configured to maintain data and formulas for the multiple tables and track references made from one table to another table, the spreadsheet functionality being further configured to update any data and formulas in the multiple tables that is affected by a change made to one of the tables.

11.    **(Original)** The architecture of claim 1, wherein multiple tables appear in one or more documents, and wherein:

the table appearance manager comprises multiple spreadsheet components so that there is one spreadsheet component for an associated table, each spreadsheet component being configured to capture data and formulas input into the associated table; and

the spreadsheet functionality manager comprises multiple grid components so that there is one grid component for an associated table and an associated spreadsheet component, each grid component maintaining the data, the formulas, and formatting used in the associated table.

12.     **(Original)** The architecture of claim 1, further comprising a document renderer to render the document.

13.     **(Original)** The architecture of claim 1, wherein the table appearance manager and the spreadsheet functionality manager reside on different computers.

14-40. **(Canceled).**

41. **(Previously Presented)** One or more computer-readable media comprising computer-executable instructions for defining a computer architecture, wherein the computer architecture comprises:

a table appearance manager to manage how a table appears in a document;

a spreadsheet functionality manager to manage spreadsheet functions for the table;

first and second tables renderable as part of a common document;

a first spreadsheet component to receive at least one of data or a first formula entered into a first cell in the first table;

a first grid component to hold the data or first formula in association with the first cell of the first table;

a second spreadsheet component to receive at least a second formula entered into a second cell in the second table, the second formula referencing the first cell in the first table; and

a second grid component to hold the second formula in association with the second cell of the second table,

wherein the table appearance manager and the spreadsheet functionality manager are architecturally separate system managers of the architecture.

42. **(Previously Presented)** The one or more computer-readable media of claim 41, wherein the first table is nested within the second table.

43. **(Previously Presented)** The one or more computer-readable media of claim 41, wherein the second spreadsheet component presents a formula edit box to allow user entry of the second formula.

44. **(Previously Presented)** The one or more computer-readable media of claim 41, wherein the second spreadsheet component facilitates reference editing to the first cell in the first table.

45. **(Previously Presented)** The one or more computer-readable media of claim 41, wherein the first table is nested within the second table and the second spreadsheet component facilitates reference editing to the first cell in the first table.

46. **(Previously Presented)** The one or more computer-readable media of claim 41, further comprising a recalculation engine to recalculate the second formula held in the second grid component in response to a change of the first cell in the first grid component.

47. **(Previously Presented)** The one or more computer-readable media of claim 46, wherein the second table is updated to reflect a result produced by the recalculation engine.

48. **(Previously Presented)** The one or more computer-readable media of claim 46, wherein the first and second tables are updated to reflect a result produced by the recalculation engine.

49. **(Previously Presented)** The one or more computer-readable media of claim 46, wherein the first table is nested within a particular cell of the second table, the particular cell containing a non-calculation formula that is not evaluated by the recalculation engine but which defines a dependency between the two cells.

50. **(Previously Presented)** The one or more computer-readable media of claim 41, further comprising:

a free floating field renderable in the document but separately from the first and second tables;

a third spreadsheet component to receive a third formula entered into the free floating field; and

a third grid component to hold the third formula.

51-81. **(Canceled).**

82. **(Previously Presented)** One or more computer-readable media comprising computer-executable instructions for defining a computer architecture, wherein the computer architecture comprises:

a table appearance manager to manage how a table appears in a document; and

a spreadsheet functionality manager to manage spreadsheet functions for the table,

wherein the table appearance manager and the spreadsheet functionality manager are architecturally separate system managers of the architecture, and

wherein the table appearance manager and the spreadsheet functionality manager are configured for:

creating a first spreadsheet table for display in a document; and

creating a second spreadsheet table for display in the document, the second spreadsheet table being nested within the first spreadsheet table when displayed.

83. **(Previously Presented)** A data structure stored on the one or more computer-readable media of claim 82, the data structure being produced as a result of operation of the table appearance manager and the spreadsheet functionality manager.

84. **(Previously Presented)** A computer configured for execution of the one or more computer-readable media of claim 82.



85. **(Currently Amended)** One or more computer-readable media comprising computer-executable instructions for defining a computer architecture, wherein the computer architecture comprises:

a table appearance manager to manage how a table appears in a document; ~~and~~

a spreadsheet functionality manager to manage spreadsheet functions for the table;

~~wherein the table appearance manager and the spreadsheet functionality manager are architecturally separate system managers of the architecture; table; and~~

wherein the table appearance manager and the spreadsheet functionality manager are configured for:

integrating text and a spreadsheet table within a common document, the spreadsheet table supporting spreadsheet functionality;

formatting the text according to a particular format; and

formatting cells in the spreadsheet table according to the particular format.

86. **(Previously Presented)** A computer configured for execution of the one or more computer-readable media of claim 85.

87. **(Currently Amended)** One or more computer-readable media comprising computer-executable instructions for defining a computer architecture, wherein the computer architecture comprises:

a table appearance manager to manage how a table appears in a document; ~~and~~

a spreadsheet functionality manager to manage spreadsheet functions for the ~~table~~;

~~wherein the table appearance manager and the spreadsheet functionality manager are architecturally separate system managers of the architecture, table; and~~

wherein the table appearance manager and the spreadsheet functionality manager are configured for:

integrating text and a spreadsheet table within a common document, the spreadsheet table supporting spreadsheet functionality; and

evaluating the text and the spreadsheet table concurrently for possible spelling or grammatical errors.

88. **(Previously Presented)** A computer configured for execution of the one or more computer-readable media of claim 87.

89. **(Currently Amended)** One or more computer-readable media comprising computer-executable instructions for defining a computer architecture, wherein the computer architecture comprises:

a table appearance manager to manage how a table appears in a document; ~~and~~

a spreadsheet functionality manager to manage spreadsheet functions for the ~~table~~;

~~wherein the table appearance manager and the spreadsheet functionality manager are architecturally separate system managers of the architecture, table; and~~

wherein the table appearance manager and the spreadsheet functionality manager are configured for:

integrating text and a spreadsheet table within a common document, the spreadsheet table supporting spreadsheet functionality;

enabling a user to select a control function to modify or evaluate an aspect of the document; and

applying the control function across both the text and the spreadsheet table.

90. **(Previously Presented)** The one or more computer-readable media of claim 89, wherein the control function is selected from a group of functions including formatting, spell checking, grammar checking, find, find and replace, auto-correct, applying document themes, inserting lists, images, drawings, charts, hyperlinks, automatic detection of hyperlinks, and automatic detection of lists.

91. **(Previously Presented)** The one or more computer-readable media of claim 89, wherein the control function is any text feature that can be applied to the text and the applying comprises applying that text feature to the spreadsheet table.

92. **(Currently Amended)** One or more computer-readable media comprising computer-executable instructions for defining a computer architecture, wherein the computer architecture comprises:

a table appearance manager to manage how a table appears in a document; and

a spreadsheet functionality manager to manage spreadsheet functions for the table;

~~wherein the table appearance manager and the spreadsheet functionality manager are architecturally separate system-managers of the architecture, table; and~~

wherein the table appearance manager and the spreadsheet functionality manager are configured for:

integrating text and a first spreadsheet table within a common document, the spreadsheet table supporting spreadsheet functionality;

creating a second spreadsheet table by cutting or copying all or part of the first spreadsheet table and pasting said all or part of the first spreadsheet table; and

updating any references to cells in the first spreadsheet table or the second spreadsheet table to reflect the newly created second spreadsheet table.

93-97. **(Canceled).**

98. **(Previously Presented)** A computer comprising:

- a memory;
- a processing unit coupled to the memory; and
- an architecture stored in the memory and executable on the processing unit to construct and display a document having a table with integrated spreadsheet functionality, the architecture comprising:
  - a table appearance manager to manage how a table appears in a document; and
  - a spreadsheet functionality manager to manage spreadsheet functions for the table,

wherein the table appearance manager and the spreadsheet functionality manager are architecturally separate system managers of the architecture.

99. **(Original)** A computer as recited in claim 98, wherein the architecture constructs multiple tables within the document, at least one table containing a reference to contents in another table.

100. **(Original)** A computer as recited in claim 98, wherein the architecture constructs multiple tables within the document, the tables containing formulas referencing contents of other tables, whereupon modification of content in one of the tables, the architecture automatically recalculates all formulas in the tables in the document.

101. **(Original)** A computer as recited in claim 98, wherein the architecture constructs a free floating field in the document, the free floating field containing a formula referencing content in the table, whereupon modification of content in the table, the architecture automatically recalculates the formulas in the free floating field.

102. **(Canceled).**

103. **(Original)** A computer as recited in claim 98, wherein the architecture comprises a complementary pair of spreadsheet and grid objects for the table, the spreadsheet object facilitating user entry of content into the table and the grid object holding the content for the table.

104-105. **(Canceled).**

106. (New) One or more computer-readable media having computer-readable instructions therein that, when executed by a computing device, cause the computing device to perform acts comprising:

interpreting a cell of a table in a document to be primarily word-processing based or primarily spreadsheet-based, the table having cells capable of being interpreted as primarily word-processing based and cells capable of being interpreted as primarily spreadsheet-based; and

treating an enter key typed into the cell as meaning a return command if the cell is interpreted to be primarily word-processing based, or

treating the enter key typed into the cell as meaning a command to navigate to another cell in the table if the cell is interpreted to be primarily spreadsheet-based.

107. (New) The media of claim 106, wherein the act of interpreting interprets the cell to be primarily word-processing based if the cell contains text and primarily spreadsheet-based if the cell contains a formula or data value.

108. (New) One or more computer-readable media having computer-readable instructions therein that, when executed by a computing device, cause the computing device to perform acts comprising:

receiving an activity from a user and related to a table in a document, the table having columns without column headers and rows without row headers; and

presenting, responsive to the act of receiving, column headers for the columns and row headers for the rows.

109. (New) The media of claim 108, wherein the activity comprises editing a cell of the table or hovering a pointer over the table.

110. (New) One or more computer-readable media having computer-readable instructions therein that, when executed by a computing device, cause the computing device to perform acts comprising:

receiving selection of a control function to modify or evaluate an aspect of a document, the document having both a spreadsheet table and text separate from the spreadsheet table; and

applying the control function across both the spreadsheet table and the text separate from the spreadsheet table.

111. (New) The media of claim 110, wherein the control function received is one of a group of functions including formatting, spell checking, grammar checking, find, find and replace, auto-correct, applying document themes, inserting lists, images, drawings, charts, hyperlinks, automatic detection of hyperlinks, and automatic detection of lists.



112. (New) One or more computer-readable media having computer-readable instructions therein that, when executed by a computing device, cause the computing device to perform acts comprising:

receiving selection of a control function to modify or evaluate text in a document, the document having a text body and a table separated by a table boundary, the text body comprising first text and the table having a cell comprising second text; and

applying, responsive to the selection, the control function across the table boundary effective to modify or evaluate the first text in the text body and the second text in the cell.

113. (New) The media of claim 112, wherein the act of applying checks the spelling of the first text and the second text.

114. (New) The media of claim 112, wherein the act of applying checks the grammar of the first text and the second text.

115. (New) The media of claim 112, wherein the act of applying finds and replaces text from the first text and the second text.

116. (New) The media of claim 112, wherein the act of applying alters the format of the first text and the second text.